

CLAIM AMENDMENTS:

Please amend the claims as described below. In accordance with 37 CFR §1.121, a complete listing of all claims in the application is provided below. Notably, the status of each claim is indicated in the parenthetical expression adjacent to the claim number.

Claims 1 - 10 (**canceled**).

1 11. (**NEW**): A system for managing the production of semiconductor devices, the
2 system comprising:

3 a plurality of production devices to perform production processes for fabricating
4 semiconductor devices;

5 a plurality of in-line measuring devices to measure at least one process parameter of
6 each production process performed by the production devices and to output the process
7 parameter as measured data, wherein at least one in-line measuring device of the plurality
8 of in-line measuring devices is associated with one of the plurality of production devices
9 such that the in-line measuring device measures a process parameter of the process
10 performed by the associated production device;

11 a data storage device to store: (i) data which is indicative of the production
12 processes performed by the production devices, (ii) the measured data, (iii) specifications
13 of the production processes that are associated with the measured data, (iv) data of the
14 start of production of the semiconductor devices, (v) data of the scheduled date on which
15 each production process is performed by the production devices, (vi) data of the date of
16 completion of each production process performed by the production devices, and (vii) data
17 of the scheduled date of completion of the semiconductor devices; and

18 a computing device, coupled to the data storage device, the computing device
19 including:

20 an estimated yield operating unit to calculate an estimated yield of
21 semiconductor devices using the specifications of the production processes and the
22 measured data; and

23 a production managing unit to manage the production of the semiconductor
24 devices using the estimated yield of semiconductor devices.

1 12. **(NEW)**: The system of claim 11 wherein a wafer lot includes a plurality of
2 semiconductor wafers, each semiconductor wafer contains a plurality of semiconductor
3 devices, and wherein the plurality of in-line measuring devices output process parameters
4 as measured for the wafers of a wafer lot.

1 13. **(NEW)**: The system of claim 12 wherein the plurality of in-line measuring
2 devices output process parameters as measured for all of the wafers of the wafer lot.

1 14. **(NEW)**: The system of claim 12 further including a user terminal, wherein the
2 user terminal provides: (i) the specifications of the production processes, (ii) data which is
3 indicative of a measuring position on a wafer to be measured by an in-line measuring
4 device, and (ii) data which is indicative of the type of the in-line measuring device.

1 15. **(NEW)**: The system of claim 11 wherein the estimated yield operating unit
2 calculates an estimated yield of a wafer lot using: (i) statistical values of process

3 parameters, (ii) the specifications of the production processes, and (iii) the measured data
4 after the production process is performed by a predetermined production device.

1 16. **(NEW)**: The system of claim 11 wherein the estimated yield operating unit
2 calculates an estimated yield for a production process performed by a production device
3 using: (i) the specification of the production process performed by the production device
4 and (ii) associated measured data, and wherein if the estimated yield of the production
5 process is lower than a predetermined minimum yield, the production managing unit
6 notifies an operator.

1 17. **(NEW)**: The system of claim 16 wherein if the estimated yield of the production
2 process is lower than a predetermined yield, the production managing unit notifies an
3 operator.

1 18. **(NEW)**: The system of claim 11 wherein at least one in-line measuring device
2 irradiates through-holes, formed in an insulating film on a wafer, with electron beam.

1 19. **(NEW)**: The system of claim 18 wherein the at least one in-line measuring
2 device that irradiates through-holes formed in an insulating film on a wafer measures
3 electric current flowing through the irradiated through-holes on the wafer and outputs the
4 measured current as the measured data.

1 20. **(NEW)**: The system of claim 11 wherein a semiconductor wafer contains a
2 plurality of semiconductor devices and wherein the estimated yield operation unit calculates
3 the estimated yield after each production process and calculates the number of acceptable
4 semiconductor devices of a wafer or inoperative semiconductor devices of a wafer on the
5 basis of the estimated yield.

1 21. **(NEW)**: The system of claim 20 wherein the estimated yield operation unit
2 calculates estimated cost of a semiconductor device using: (a) the number of acceptable
3 semiconductor devices or inoperative semiconductor devices and (b) a working ratio of the
4 production device.